

[NOTE]

## *Wh*-Elements in Right Periphery and Alternative Semantics

FUKUTOMI Yasuyuki

### 0. Introduction

In Japanese Right Dislocation (JRD) construction, interrogative *wh*-phrases cannot appear at the right side of the matrix verb, as exemplified in (1) :

- (1) a. \*John-wa tabemasita ka, nani-o  
John-TOP ate polite Q what-ACC  
intended : 'What did John eat?'
- b. \*shukudai-o yarimashita ka, dare-ga  
homework-ACC did polite Q who-NOM  
intended : 'Who did his/her homework?'

In contrast, Negative Polarity Items (NPIs) such as *nani-mo* 'anything' can appear in the dislocated position as in (2) :<sup>1</sup>

- (2) a. John-wa tabenakatta yo, nani-mo  
John-TOP did not eat PRT anything  
'John didn't eat anything.'
- b. konakatta ne, dare-mo  
did not come PRT anyone  
'No one came.'

Since both an interrogative *wh*-phrase and an NPI have to be licensed by a Q-particle and a NEG head, respectively,<sup>2</sup> the difference of acceptability requires an explanation.

In this short note, assuming that the covertly juxtaposed clauses are interpreted independently in the semantic/pragmatic component, we will account for the contrast between (1) and (2) in a unified way under the Bi-Clausal Analysis of JRD constructions.

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<sup>1</sup> Watanabe (2004) classifies *nani-mo* and *dare-mo* in Japanese as Negative Concord Items rather than NPIs, and provides a syntactic analysis of negative concord. Although his argument is convincing and worth considering, we will use an NPI as a neutral term in the following discussion.

<sup>2</sup> See, among others, Hagstrom (1999) and Harada (1972) for the relation between a Q-particle and an interrogative *wh*-phrase, and Nishioka (2000) and Watanabe (2004) for the analysis of NPIs in syntactic terms.

## 1. Syntactic Analyses

Before going to the proposal, we will review three different previously-proposed analyses for JRD : that is, Rightward Movement, Clause-Internal Leftward Movement, and Bi-Clausal (Leftward movement + deletion) Analysis.

A first analysis is proposed, among others, by Simon (1989), according to which JRD is derived from the base structure by applying rightward movement to a constituent so as to put it in a clause-external position, as illustrated in (3) :

- (3) a. S O V (base structure)  
 b. [ S t V ] O (rightward movement of O)
- 

A second analysis, which is proposed by Fukutomi (2006), argues that an apparently right-dislocated element is first moved clause-internally to the left, and then the remnant TP is further moved to the left side of the clause. The derivations proceed as in (4) :

- (4) a. S O V (base structure)  
 b. O [ TP S t V ] (leftward movement of O)
- 
- c. [ TP S t V ] O t<sub>TP</sub> (leftward movement of remnant TP)
- 

The derived surface word order is the same as the one derived by rightward movement.

Tanaka (2001) proposes a third approach to the structure of JRD. He argues that JRD actually involves two independent clauses and that the apparently right-dislocated element is actually scrambled within the second clause, followed by the truncation of the lower constituent. The derivations are schematized below :

- (5) a. [ S O V ] [ S O V ] (base structure)  
 b. [ S O V ] O [ S t V ] (leftward movement)
- 
- c. [ S O V ] O [ S t V ] (deletion)

Under any approach, however, we cannot provide a satisfactory explanation in syntactic terms, because the same structural position would be assigned to the dislocated interrogative *wh*-phrase and the NPI in the overt syntax. Moreover, it is widely accepted that a scrambled *wh*-phrase should be radically reconstructed into the original position (see Saito 1989).

- (6) a. John-ga [Taroo-ga nani-o katta ka] siritagatteiru  
 John-NOM Taro-NOM what-ACC bought Q want-to-know  
 'John wants to know what Taro bought.'

- b. <sup>2</sup>Nani-o John-ga [Taroo-ga *t* katta ka] siritagatteiru  
 what-ACC John-NOM Taroo-NOM bought Q want-to-know

In (6b) *wh*-phrase *nani-o* must move back to the object position of the embedded clause at LF so that it can be properly linked with the interrogative complementizer of the embedded clause. The same is true for the interpretation of NPIs. A scrambled NPI must be radically reconstructed into the original position, since the clause-mate condition would be violated otherwise (see Nishioka 2000).

- (7) a. Mary-ga [John-ga nani-mo tabenakatta to] itta  
 Mary-NOM John-NOM anything did not eat COMP said  
 ‘Mary said that John did not eat anything.’  
 b. Nani-mo Mary-ga [John-ga *t* tabenakatta to] itta  
 anything Mary-NOM John-NOM did not eat COMP said

When radical reconstruction is applied to the right-dislocated *wh*-phrase in (1a), there is no difference at LF between (1a) and (8) under the mono-clausal analyses :

- (8) John-wa nani-o tabemashita ka  
 John-TOP what-ACC ate polite Q  
 ‘What did John eat?’

The answer, therefore, must be found in the semantic/pragmatic or phonological aspect of the construction. In the next section we will propose an alternative analysis of JRD based on the idea of Alternative Semantics, which is originally proposed by Rooth (1992).

## 2. An Alternative by Alternative Semantics

According to the Bi-Clausal Analysis of JRD, the example in (1a) consists of two clauses and has the structure like (9) :

- (9) [John-wa tabemasita ka], [nani-o [~~John-wa tabemasita ka~~]]

Assume here that these two clauses are independently transmitted to and interpreted in the semantic component. According to Hamblin’s (1973) and Karttunen’s (1977) semantics, the preceding clause in (9) is interpreted as a polar question and creates alternatives of proposition {John ate, John did not eat}. The negative clause in (2a), on the other hand, denotes a set created by the focus of negation ; in this case, a set of edible things. We propose here that the legitimate interpretation of JRD requires the compatibility of created sets :

- (10) the Compatibility Condition on Created Sets (CCCS)  
 The set created by the preceding clause must contain one of the members of the set created by the following clause.

According to this condition, the ungrammaticality of (1) can be explained as the incompatibility of created

sets : the interrogative *wh*-phrase contained in the second clause generates a set of propositions such as {John ate sushi, John ate tempura, ...}, which is not contained in the set of propositions created by the preceding yes-no question. In the case of NPIs in (2), the *mo*-particle, as a kind of universal quantifiers, is taken to contribute the meaning that all the alternatives created by the *wh*-phrase are true, which means that all the members of the set created by the second conjunct are contained by the preceding set created by the first one, thus resulting in an acceptable sentence.

The following pieces of evidence corroborate the relevance of alternative sets to the interpretation of right-dislocated *wh*-interrogatives.

A) If we substitute *nani-o* (what) with *docchi* (which), a *wh*-phrase creating the meaning of alternative questions, the sentence becomes grammatical, because both clauses generate an alternative set of proposition {John ate supper, John did not eat supper} :

- (11) ?John-wa bangohan-o tabeta no, docchi  
 John-TOP supper-ACC ate Q which  
 'Did John eat supper (or not), which?'

When we make the set members explicit, the sentence becomes perfectly grammatical :

- (12) John-wa bangohan-o tabeta no, tabenakatta no, docchi  
 John-TOP supper-ACC ate Q did not eat Q which  
 'Did John eat supper or not, which?'

B) As Tanaka (2001) notes, even *nani-o* can occur in the right dislocated position, when the *wh*-phrase is duplicated, which means that two juxtaposed clauses create the same set of propositions :

- (13) John-wa nani-o tabemasita ka, nani-o  
 John-TOP what-ACC ate polite Q what-ACC  
 'What did John eat?'

C) When the affirmative answer to the preceding question is presupposed from the context, a *wh*-interrogative can follow :

- (14) a. *you open the refrigerator door and find out your cake is missing,*  
 keeki tabeta no, dare-ga  
 cake ate Q who-NOM  
 'Who ate my cake?'  
 b. *you run across one of your friends who you heard was fired from his/her job,*  
 kubi-ni natta no, naze / itu  
 was fired Q why / when  
 'Why / When were you fired?'

The first conjunct of this type of questions does not seek information, but just confirm the situation, which means it does not create alternatives. This can be verified by changing the interrogative sentence-

final particle into another non-interrogative particle, as in (15) :

- (15) a. keeki tabeta ne, dare-ga  
           cake ate PRT who-NOM  
       b. kubi-ni natta te ne, naze / itu  
           was fired COMP PRT why / when

D) In addition, our proposal also predicts that not only *wh*-phrases but also focused elements in general cannot be right dislocated in Japanese, when different sets are created, as illustrated in (16) :<sup>3</sup>

- (16) \*John-wa wain-dake nomu yo, borudoo-no  
       John-TOP wine-only drinks PRT Bordeaux-of  
       intended : ‘John drinks only Bordeaux wine.’

In the first conjunct, the focus-particle *-dake* (only) creates an alternative set of drinkables and picks up wine out of the set. The second conjunct, on the other hand, specifies the possible production area of wine, which is not included in the set created by the preceding clause. The violation of the CCCS makes the sentence unacceptable.

To sum up, we have shown in this section that a *wh*-element can be right-dislocated only if the CCCS is satisfied.

### 3. A Further Condition on Right Dislocated Elements

The proposal above covers the fact that the construction, so-called “sequence of *wh*-questions” exists in Japanese. While an embedded indirect question can be right dislocated as in (17a), the post-verbal positioning of a clause with a *wh*-phrase intended to have matrix scope is not allowed, as in (17b) :<sup>4</sup>

- (17) a. John-ga tazuneta yo, [<sub>CP</sub> Mary-ga nani-o yonda ka]  
           John-NOM asked PRT Mary-NOM what-ACC read Q  
           ‘John asked what Mary read.’

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<sup>3</sup> See Kuno (1978) for other examples.

<sup>4</sup> The example in (17b) is ungrammatical even if right-dislocation is not applied to it :

- (i) \*John-wa [<sub>CP</sub> Mary-ga nani-o yonda ka] omotteimasu ka.  
       John-TOP Mary-NOM what-ACC read Q think.polite Q  
       Intended : ‘What does John think Mary read?’

The point to be made here is that a *wh*-phrase cannot have matrix scope at all from within the right-dislocated clause. Thus, the sentence is still ungrammatical even if the complementizer is substituted with a declarative one :

- (ii) \*John-wa omotteimasu ka, [<sub>CP</sub> Mary-ga nani-o yonda to]  
       John-NOM think.polite Q Mary-NOM what-ACC read COMP  
       Intended : ‘What does John think Mary read?’

- b. \*John-wa omotteimasu ka, [<sub>CP</sub> Mary-ga nani-o yonda ka]  
 John-NOM think.polite Q Mary-NOM what-ACC read Q  
 Intended : ‘What does John think Mary read?’

The contrast can be explained along the same line of reasoning by the incompatibility of created sets ; the matrix clause in (17b) is interpreted as a polar question, which generates a set incompatible with the set of propositions created by the dislocated embedded clause, violating the CCCS. Interestingly, changing the matrix clause to a *wh*-interrogative sentence by adding *doo* (how), which creates an open set of propositions, makes the sentence grammatical :

- (18) John-wa doo omotteimasu ka, [<sub>CP</sub> Mary-ga nani-o yonda ka]  
 John-TOP how think.polite Q Mary-NOM what-ACC read Q  
 ‘What does John think Mary read?’

In (18) the set created by the second clause provides a possible answer to the set of the preceding first clause.

Note also that a *wh*-phrase within the right-dislocated clause must be linked with the interrogative complementizer of the same clause. This is illustrated by the contrast between the grammatical example (18) and the ungrammatical example (ii) in note 4. These considerations lead us to the generalization that only the legitimately interpreted *wh*-phrase can appear in the right periphery. The supporting evidence comes from the contrast between (19b) and (19c) :

- (19) a. [[dono gakusei-ga kaita] ronbun]-mo omosiroi.  
 which student-NOM wrote article -MO be interesting  
 ‘For every student x, the article(s) that x wrote is interesting.’  
 b. omosiroi yo, dono gakusei-ga kaita ronbun-mo.  
 be interesting PRT which student-NOM wrote article -MO  
 c. \*ronbun-mo omosiroi yo, dono gakusei-ga kaita.  
 article -MO be interesting PRT which student-NOM wrote

The indeterminate pronoun can be associated with the universal particle *-mo* in a non-local fashion as in (19a), where the domain of *wh*-indeterminate expands until it meets the particle.<sup>5</sup> When Right Dislocation is applied to the sentence of this kind, the larger DP including both an indeterminate pronoun and a particle can be right dislocated (19b), but the relative clause that includes only an indeterminate pronoun cannot, as in (19c). Note that relative clause itself can be right dislocated, as illustrated in (20) ; thus the appearance of an indeterminate pronoun in the right periphery, which is not associated with an appropriate particle, causes the ungrammaticality of (19c).

- (20) ronbun-ga omosiroi yo, John-ga kaita.  
 article-NOM be interesting PRT John-NOM wrote  
 ‘The article that John wrote is interesting.’

<sup>5</sup> See Shimoyama (2006) for the analysis of domain expansion.

#### 4. Concluding Remarks

We have so far limited our attention to JRD and presented a novel analysis on the basis of Alternative Semantics. A juxtaposition of two independent clauses is subject to the semantic compatibility condition CCCS. The proposal mentioned above can be extended to the analysis of Split Questions discussed in Arregi (2010) :

(21) What tree did John plant, an oak?

Under our analysis, this type of question contains two independent interrogative clauses, a *wh*-question and a non-*wh*-question, as illustrated in (22a) :

- (22) a. [what tree did John plant] [~~Did John plant~~ an oak]  
 b. {John planted an oak, John planted a cherry, ...}  
 c. {John planted an oak, John did not plant an oak}

The first clause creates a set of possible answers in (22b) and the second elliptical clause creates a two-membered set in (22c) and functions to narrow down the list of possible answers just to *an oak*. If this extension is on the right track, the CCCS is not a condition just on the JRD construction, but a more general condition on a juxtaposition of elliptical interrogative clauses. Although this is an interesting issue to be addressed, we will leave its detailed investigation for future research.

To conclude, the analysis based on the CCCS is more successful than its syntax-oriented predecessors in respect of empirical coverage, as it offers a natural explanation to the JRD constructions.

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